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Eileen Donoghue
City Manager
Kara Keefe Mullin
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School Building Committee MSBA Meeting

Meeting Minutes

Date: October 4, 2018
Time: 6:30 PM
Location: City Council Chambers

Attendance: Eileen Donoghue, William Samaras, Gerry Nutter (in attendance for Connie Martin), Conor Baldwin, Diane Tradd, Jeannine Durkin, Billie Jo Turner, Jay Mason, and Maria Sheehy.

SKANSKA: Jim Dowd, Maryann Williams

Perkins Eastman: Robert Bell, Dawn Guarriello, Joe Drown,

Dominick Puniello & Carlos DeSousa

Also in attendance: Kara Keefe Mullin & Heather Varney

I. Updates Since Last SBC Meeting 9/6/18

E. Donoghue called the meeting to order. She took a moment to remember David Cunningham whom served on the School Building Committee and has recently passed away. J. Drown outlined the agenda.

II. Design Updates

Pre-engineered Building Update

J. Drown noted that earlier during the PSR study, the team introduced a pre-engineered building for the gymnasium. The design was meant to easily and economically accommodate expanding the basketball and track facilities. The design team has been in touch with building manufacturers and cost estimators to discuss cost efficiency with how fast the building can be constructed and the cost. As the design is customized with better exteriors, the pre-engineered building will start to loose cost efficiencies. J. Drown made the recommendation that the SBC discontinue with this approach and move forward with standard building.

Exterior Update

D. Guarriello continued, noting that the design has been refined, and will continue to do so moving forward. As J. Drown mentioned, the team decided not to move forward with

a pre-engineered gym structure which resulted in removal of the geometric roof, and instead went to a shed roof as a design change to the gymnasium. The illustrations presented include an updated canopy outside gymnasium to both shelter students waiting for a ride as well as provide a security feature that will prevent individuals from wandering into the greenspace. D. Guarriello explained that Kalwall is a translucent wall that will allow natural daylight in to a space without ability to look in. Other changes for the front entry now include a design for a live green roof corridor, and opening of stairwells to improve visibility of vertical activity. The image from the canal side illustrates the connection of the cafeteria to canal. The proposed design incorporates a two story bridge, which may not be well received by the historic board. D. Guarriello noted that the design team has illustrated what a single and double story bridge would look like from different perspectives. W. Samaras inquired to the expense between the two and single story bridge. J. Drown noted that the double story is currently in the budget, so there may be some cost savings if the design changed to one. W. Samaras mentioned that it would make it safer to have two stories. J. Mason commented that the two level bridge was reviewed by the Sustainability Committee discussing the improved circulation by providing connection between the levels. He continued that it may be interesting to add extra space for discussion. D. Guarriello – noted that there may not be supervision there from an educator's perspective but it is something that they thought about. Based on feedback received, this is more functional. E. Donoghue noted the SBC will need to provide some input on the decision of 1 story or 2 stories. E. Kennedy inquired to the cost estimates. J. Drown noted that the team would follow up. D. Guarriello stated that the design is for two stories now, but they will come back with costs next month. E. Kennedy requested the bridge cost estimates and also inquired to the exterior for the gymnasium.

III. Design Options

Exterior Material Options

D. Guarriello discussed the current building materials, internal design and included how the Freshman Academy will have a civic presence. She provided examples of how civic design can be timeless. D. Guarriello noted that the CMU is an addition to exterior materials that was not included last time, and natural stone was eliminated as it was cost prohibitive. The PSR estimate carried $4,599,900 for the exterior facade, (Freshman Academy $3.15M, Gymnasium $1.45M). The brick façade and polished CMU base example (option 1) totaled $4.372,370, which is approximately $227,000 less than

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budgeted. Option 2 – included simulated stone base and brick façade totaling $4,607,612, which is approximately $7,000 over PSR budget. Option 3 – phenolic panel façade and polished CMU base, (the Gymnasium has polished CMU to offset cost as well) totaled $4,775,795 which is $175,895 over the PSR budget. D. Guarriello stated that the team was looking for a preference of the committee to create a budget. E. Donoghue stated that her favorite was Option 1, as it is the least expensive. She noted this was not a formal vote but would like the SBC to provide their opinions to give insight to the design team. E. Donoghue explained her reasoning that Option 1 keeps with architecture of the City but keeps with the design of the other buildings. E. Kennedy inquired to the phenolic façade material. D. Guarriello noted that the masonry would not be structural, holding up the building like the original buildings, it would be engineered to allow water to get out and not build up behind the masonry. E. Kennedy asked for the advantages to this type of construction, to which D. Guarriello noted that there are no joints to repoint which reduced maintenance. The core of the façade is highly durable and more contemporary used in Europe for 50 years. The façade is also popular around here as well; some projects Perkins has worked on have utilized this material. W. Samaras inquired to the brick façade compared to actual bricks. D. Guarriello stated that there is a 75 year life expectancy for brick and that power washing and resealing would be necessary maintenance. J. Drown noted the way brick walls are constructed today; the majority of load transfer is done with steel. This assists with controlling moisture and mold growth where installation is provided today. Brick maintenance requirements include replacing the caulking every 5-10 years. Rain screen allows the water to find its way out through vapor and liquid methods. W. Samaras asked how the design team felt about Option 1; J. Drown replied that the materials are very durable and require little maintenance. The difference in phenolic, as D. Guarriello pointed out, there is less sealants between panels that need to be maintained. W. Samaras noted that the idea is to have a building that would last 75 years. Is the difference in price so different that they shouldn't do it? D. Guarriello noted that Option 1 is most economical, but she would consider brick on brick rather than the simulated stone. She also mentioned that it is beneficial to carry costs at or below budget, as it is more flexible. The design team looked to provide illustrations on what is below budget, on budget and over budget. J. Durkin noted that she liked the brick in Option 1 as it was similar to the other buildings. She also agreed with W. Samaras that it would be interesting to find the total cost for entire brick. D. Guarriello noted that it would not meet code if the building was constructed entirely with brick. She also mentioned that the veneer is a full 6x4 brick not the width of the sample. E. Kennedy agreed Option 1 was the best choice.

Interior Material Options

Interior material options are different by room type. Class rooms are recommended to have ceiling tiles, Gypsum painted walls and linoleum floors. VCT – 12x12 tile in most schools is very common and the majority of these materials are in the high school now. The team also proposes that the corridors have the same materials, except that it would have porcelain tiles wainscot with the Gipson walls. E. Kennedy noted that the SBC should consider using similar materials in all the schools for maintenance and inventory management purposes. The gymnasium would have a painted steel ceiling, painted CMU walls and tectum panels and sports flooring as well as wood flooring. Restrooms would be designed with painted drywall ceiling, painted CMU walls and epoxy floor. The floor would not have tile, as it is poured, with higher resistance and durability. Stairwells would include ceiling tiles, CMU walls, and rubber stairs. The cafeteria would have ceiling tiles, painted Gypsum walls, porcelain tile wainscot, and linoleum floors.

IV. Building Systems

D. Puniello discussed the HVAC overview and design for the new high school. The presentation includes steps of lifecycle cost analysis, for three or four options vs. the code based system. The baseline system is a variable air volume system (VAV). Option 1 would be displacement system with radiant cooling and heating, more efficient way to provide air conditioning; Option 2 would provide chilled beam induction units; Option 3 would use air source VRF (variant refrigerant flow system); and Option 4 would have a water source VRF system. In comparison to existing HVAC system all options will provide greater thermal comfort and energy efficiency. The goal of any new system would be to improved air quality, filtration level, energy efficiency, thermal comfort, reduced noise operations and automatic temperature control and building energy management system.

D. Puniello noted that Option 1 positives include pollution removal, low noise levels, low air velocity, low moisture levels, and reduced initial costs: Option 2 positives include uses dedicated outdoor air unit, high energy efficiency, ventilation air and ductwork minimized, low noise levels, flexibility of installation, moderate first costs, simplified controls, and lower maintenance. However, Option 2 requires increased coordination with ceiling systems, additional ventilation air in some cases and potential for condensation. Both Options 1 & 2 have boiler and chiller plants on both sides of the canal in both buildings.

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Option 3 would entail lower piping installation costs due to the refrigerant piping system, the boiler, chiller and distribution plants would not be required. A single cabinet can be utilized for heating and cooling, simultaneous heating and cooling, smaller central ventilation ductwork, high energy efficiency, modular design allows for level of redundancy and no site emissions. However, individual fan motors take up space, have slightly higher noise levels, quarterly filter changes required per unit, condensate drain maintenance for terminal units, equipment in occupied areas, as well as higher electrical energy use due to increase electrical heating.

Option 4 is similar to Option 3, in that it would incorporate a cooling tower and the VRF distribution systems would be water cooled.. The cost estimated would include preliminary installation and maintenance over 30 year period. D. Puniello asked the SBC to provide feedback on what members like these options. E. Kennedy asked of these four recommended options, which the expert would recommend. Option 1 has benefits with lower noise levels, but the team does not want to provide recommendations prior to completing the life cycle analysis. E. Kennedy noted that he is looking more at the most negative aspects on the systems. Option 3 seems to have a lot of moving parts that can break down in multiple areas, noting that this is a current issue. G. Nutter agreed with E. Kennedy, it would make sense to concentrate on 1 and 2, as 3 and 4 have so many variables with more required maintenance. W. Samaras asked if the options react well to extreme temperatures. D. Puniello replied that yes, the systems would be designed to maintain 70 degrees in the classroom on a 0 degree day outside. He also noted that a redundant design would provide flexibility; if one system went off line, it would not impact entire system.

C. DeSousa noted that the lifecycle cost over a thirty year period include maintenance and the initial capital cost. The goal of the system is to monitor and control the humidity, CO2 and temperature. Building automation and energy management system controls lighting, CO2, ventilation (40% energy in building). It would also be able to monitor gas and water usage, emergency generators and fire alarm system. C. DeSousa also noted that this system can be scheduled with School Dude, and populates within the management system.

A photovoltaic array (PA) system would require team to look at loading and structure of the building. Energy use and production would be displayed on the dashboard. E. Kennedy asked if the solar panels would be on the roof with the gardens as well. C. DeSousa noted that the solar panels would be located where there was limited shade, but there would be room for vegetation and equipment. D Guarriello noted that the design

still has a green roof with vegetation. J. Drown stated that the team needs to continue to investigate how the building would carry the load and the cost is not represented in the presentation today. W. Samaras asked if there would be any financial benefits for the school going green. J. Drown noted MSBA requirements that the building be constructed green, targeting LEED Silver. This will be looked into by the design team as they work through the Schematic Design. J. Drown noted it may be easier to accomplish a higher LEED rating on west side of the canal than the left due to existing conditions that cannot be changed. W. Samaras asked if they would look into tax credits. J. Drown replied that the team will also be meeting with National Grid to contribute to strategies in those areas as well.

V. Next Steps in Preparation for SBC Meeting 11/1/18

J. Drown mentioned the meetings over the next month with a landscape group, the focus group, civil engineering meetings, and a working group and National Grid.

VI. Announcements

E. Donoghue stated that the meetings are critical as they provide important information to the members to make informed decisions. The next meeting will be November 1, 2018 at 5:30 PM. The CM at Risk method will be discussed, and the presentation was provided to the SBC. The SBC will need to vote on the process that will be used. The SBC will be polled to determine if a 5:30 PM start time is appealing for future meetings.

Meeting adjourned 7:53PM

Notes taken and certified by: